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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,212	09/10/2001	Kazutomi Mori	1163-0355P	2430

2292 7590 10/28/2003

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EXAMINER
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TRA, ANH QUAN

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/936,212

**Applicant(s)**

MORI ET AL.

**Examiner**

Quan Tra

**Art Unit**

2816

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 6-19 and 22-29 is/are allowed.
- 6) ☒ Claim(s) 20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/29/2003 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Mizan et al. (USP 5339047) (previously cited).

Mizian et al. discloses in figure 5 a multistage amplifier (circuit comprising two amplifiers 6dB, wherein the detail of each amplifier is shown in figure 1), comprising: a plurality of amplifying elements (the BJT in figure 1 in each 6dB amplifier) for amplifying an input signal stage by stage and outputting an amplifier signal; and a matching circuit (the output matching network in the left 6dB amplifier and the input matching network in the right 6dB amplifier of figure 6, or circuit comprises 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> in the diagram 1 of Applicant's remarks page 15), directly connected between each pair of amplifying elements adjacent to each other, for performing an impedance matching between the pair of amplifying elements, wherein the

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matching circuit comprises: a one stage high pass filter (C10, L30 of in the left 6dB amplifier or the 1<sup>st</sup> circuit shown in page 15 of the remark) type matching unit having a parallel inductor (L30) and a serial capacitor (C10); and one state low pass filter type matching unit (L20 and C20 in the left 6dB amplifier) having a parallel capacitor (C20) and a serial inductor (L20), wherein the one stage low pass filter type matching unit is serially connected with the one-stage high pass filter type matching unit, and wherein the serial inductor (20), the parallel inductor (30), and the serial capacitor (10) are connected with one another with a direct electrical connection.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizan et al. (USP 5339407) in view of Ohtake et al. (USP 5379294) (newly cited).

Mizian et al.'s figures 1 and 5 shows all limitations of the claim except for the serial capacitor, the parallel capacitor, and the serial inductor are connected with one another with a direct electrical connection. However, Ohtake et al. teaches in figures 1 and 6 that function of the band-pass filter 26 is not changed when the locations of the high pass filter (26b) and the low-pass filter 26a are switched. Therefore, it would have been obvious to one having ordinary skill in the art to switch the locations of Mizan et al. one stage high pass filter and one stage low pass filter due to doctrine equivalent of function. Thus, the modified Mizan et al. reference

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shows the serial capacitor, the parallel capacitor, and the serial inductor are connected with one another with a direct electrical connection.

***Allowable Subject Matter***

6. Claims 1-4, 6-19 and 22-29 are allowed.

Claims 1-4 and 6-19 are allowable because the prior art fails to teach or suggest a circuit (such as figure 3) having a two stage matching circuit (26) directly connected between pair of the amplifying elements adjacent to each other, wherein the two-stage matching circuit comprises a high pass filter type matching unit, having a parallel inductor and serial capacitor, formed only in a single stage; and a low pass filter type matching unit formed only in a single stage.

Claims 22-25 are allowable because the prior art fails to teach or suggest the two stage matching circuit comprising a high-pass filter type matching unit having only parallel inductor and a serial capacitor, thereby forming a first stage; and a low pass filter type matching unit having only a serial inductor and a parallel capacitor, thereby forming a second stage.

Claims 26-29 are allowable because the prior art fails to teach or suggest the matching circuit consists of one-stage high pass filter type matching unit having a parallel inductor and serial capacitor; and a one stage low-pass filter type matching unit having a serial inductor and a parallel inductor.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These references are cited as interest because they show some circuits analogous to the claimed invention.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan Tra whose telephone number is 703-308-6174. The examiner can normally be reached on 8:00 A.M.-5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



QT  
October 24, 2003



Quan Tra  
Patent Examiner